ATTORNEY'S DOCKET NO.
TI-30306

APPLICATION FOR UNITED STATES PATENT
DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I declare that my residence, post office address and citizenship are as stated below next to my name; that I verily believe that I am the original, first and sole inventor if only one name is listed below, or an original, first and joint inventor if plural inventors are named below, of the subject matter which is claimed and for which a patent is sought on the invention entitled as set forth below, which is described in the attached specification; that I have reviewed and understand the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration; that no application for patent or inventor's certificate on this invention has been filed by me or my legal representatives or assigns in any country foreign to the United States of America; and that I acknowledge my duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56;

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

TITLE OF INVENTION:

Header for Electronic Components Board in Surface Mount and Through-Hole Assembly

POWER OF ATTORNEY: I HEREBY APPOINT THE FOLLOWING ATTORNEYS TO PROSECUTE THIS APPLICATION AND TRANSACT ALL BUSINESS IN THE PATENT AND TRADEMARK OFFICE CONNECTED THEREWITH

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SIGNATURE OF INVENTOR:	SIGNATURE OF INVENTOR:	SIGNATURE OF INVENTOR:
X	X	X
DATE:	DATE:	DATE:
X 2/15/00	X 2/15/00	X 2/15/00

Property data

Nylon 46

Stanyl®

Flame Retardant, Heat Stabilized

PROPERTY DATA

Mechanical Properties*	Unit	ASTM Test	TE351	TE250F3	TE250F6	TE250F9
Glass Fiber Content	wt %		0	15	30	45
Specific Gravity	g/cc	D792	1.35	1.47	1.68	1.82
Melting Point	°F	D3417	563	563	563	563
Mold Shrinkage (flow/transverse)	in/in	D955	.018-.020	.006-.009	.004-.006	.003-.005
Water Absorption (at equilibrium 73°F/50%RH)	%		2.4	2.1	1.6	1.3
Izod Impact (notched)						
dry	ft-lbs/in	D256	1.1	0.5	1.3	1.9
conditioned	ft-lbs/in	D256	2.5	0.8	1.9	2.2
Tensile Strength						
dry	psi	D638	8,300	16,500	23,000	29,000
conditioned	psi	D638	5,500	10,000	11,500	21,800
Tensile Elongation						
dry	%	D638	15	8	3.0	2.1
conditioned	%	D638	30	20	7.0	3
Tensile Modulus						
dry	Kpsi	D638	390	1,000	1,500	2,500
conditioned	Kpsi	D638	250	550	820	1,700
Flexural Strength						
dry	psi	D790	14,000	27,000	34,000	43,500
conditioned	psi	D790	6,000	17,500	23,000	36,300
Flexural Modulus						
dry	Kpsi	D790	380	1,125	1,300	2,200
conditioned	Kpsi	D790	130	550	840	1,600
Creep Modulus						
20 MPa/1,000 hrs, 73°F	Kpsi	D2990	250	750	1,380	2,030
20 Mpa/1,000 hrs, 250°F	Kpsi	D2990	69	350	680	1,200
HDT @ 264 psi	°F	D648	320	480	543	>554
Continuous Use Temperature						
(5000 hours)	°F		262	302	300	338
(10,000 hours)	°F		252	293	303	311
Coefficient of Linear Thermal Expansion (Axial/Transverse)	10^{-4}/°F	D696	10/11	4/6	3/8.5	3/8
Flammability 1/32"		UL 94	V0	V0	V0	V0
Insulation System Rating		UL 1446	--	--	H (356 °F)	--

* All mechanical tests conducted at 73°F unless otherwise noted. Conditioned = moisturized to equilibrium at 50% RH, 73°F

June 12, 1995

EX ST-03

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APPENDIX FIG. 1

DSM

Processing Parameters

Nylon 46
Heat Stabilized
Flame Retardant

Stanyl® TE351, TE250F3, TE250F6, & TE250F9

Drying of Material	Maintain moisture at 0.05% or less. Preheated (185°F) dessicant hopper dryer recommended.	
Mold Temperature*	180 - 300°F	
Recommendations for Molding and Tool	• Well vented mold constructed of hardened tool steel • As with all crystalline materials, reverse tapered nozzles are suggested.	
	Shot size <50% shot capacity	**Shot size >50% shot capacity**
Cylinder Temperatures	Rear 540 - 560°F Center 560 - 590°F Front 570 - 590°F Nozzle 580°F Melt 580 - 595°F	Rear 580 - 600°F Center 580 - 600°F Front 580 - 600°F Nozzle 590°F Melt 580 - 595°F
Screw Speed	60 - 100 RPM	60 - 100 RPM
Injection Speed	Medium - Fast	Medium - Fast
Back Pressure	0 - 50 psi	0 - 50 psi

February 8, 1996

NOTE: The data in these tables are to be used only as a guide and should not be considered absolute. Since molding machines differ in design and many screw designs are commonly in use, the processor may find that the best temperature profile is different than what is shown above. It is suggested that you start at the lower end of the listed temperature range and increase as necessary.

*Mechanical, thermal and wear properties will improve slightly with higher mold temperatures. Optimum mold temperature is 250°F.

Cycle time can generally be decreased 20 to 30% by reducing cooling time by half (compared to nylon 66).

DSM

APPENDIX FIG. 2